

CAMBRIDGE, U.S.

(Professor W. C. Bond.)

"1847, Oct. 25<sup>d</sup> 7<sup>h</sup> 45<sup>m</sup>. The satellite is south preceding the planet 40°. Distance, 15".4. The latter is the mean of three observations, of which the extreme difference is 1".4. The angle of position is liable to some uncertainty. Power, 300. The above were taken in bright moonlight.

"Oct. 27<sup>d</sup> 7<sup>h</sup> 30<sup>m</sup>. The satellite is north following 61° 30'. Distance, 13".7. Powers, 300 and 1000. The power of 1000 seems to have the advantage in the distinctness with which the satellite is seen. The positions and distance are the mean of six determinations by two observers. Extreme difference of position, 1° 30'. Ditto of distance, 2".7.

"Oct. 28<sup>d</sup> 7<sup>h</sup> 45<sup>m</sup>. Satellite is n.f. 43° 15'. Distance, 15".0. Mean of nine observations, by two observers. Extreme difference of positions, 4°; ditto of distance, 1".4. Powers, 400 and 1000. We have pretty strong evidence of the existence of another satellite, fainter and more distant from the primary than Lassell's.

"The above were obtained with the illuminated wires of the micrometer of the 23-foot refractor; aperture, 15 inches.\* The object is one of extreme difficulty to measure with precision."

### MISS MITCHELL'S COMET.

This comet was seen in America, on October 1, by Miss Maria Mitchell, of Nantucket,† and was observed at the Observatory of Cambridge, U. S. October 7. It was seen October 3, at Rome, by Father De Vico; October 7, by Mr. Dawes, with the naked eye, at Cranbrook; and October 11, by Mrs. Rümker, at Hamburg.

Mr. Dawes says that, on October 7, he remarked it "as a hazy star of the fifth magnitude, near  $\omega$  *Draconis*. Examination with the 8½-foot refractor proved it to be a large comet, its rapid motion being speedily detected. On the 11th, it had the light of a star of the fourth magnitude, near  $\eta$  *Herculis*. The nebosity in the telescope extended over 30', nearly round, much condensed in the centre, but without stellar nucleus. A star of the tenth magnitude (Herschel's fourteenth) was distinctly seen through the exact centre of the comet."

\* The Cambridge U.S. equatoreal is 22' 8" focal length, and 15 inches aperture: it is by the same artist, of the same size, and upon the same construction, as the equatoreal of Poulkova. It stands on a very massive pier, which is insulated. The covering dome is 30 feet in diameter, revolving on eight cannon balls. An observing chair, of a novel construction, gives the observer complete command over his position. When the eye-piece is properly adjusted, there is no colour, except a purple tinge round very bright objects, such as *Venus* or the moon.

The telescope readily separates such stars as  $\gamma$  *Coronæ*,  $\gamma^2$  *Andromedæ*, and Struve's "Viciniſsimæ." The nebula, 27 *Messier* in *Vulpecula*, and the great nebula in *Orion*, are resolved into bright stars; the latter in the vicinity of the trapezium. There is no appearance of a ring to *Neptune* when viewed with high powers, though with lower powers there seems to be an elongation.

† This information comes from Professor W. C. Bond, of the Cambridge Observatory, U. S.

CRANBROOK.  $8\frac{1}{2}$ -foot Equatoreal. (Rev. W. R. Dawes.)

	Greenwich M. T.	R. A.	Parallax.	N. P. D.	Parallax.	
	<sup>h</sup> <sup>m</sup> <sup>s</sup>	<sup>°</sup> <sup>'</sup> <sup>"</sup>	<sup>°</sup> <sup>'</sup> <sup>"</sup>	<sup>°</sup> <sup>'</sup> <sup>"</sup>	<sup>°</sup> <sup>'</sup> <sup>"</sup>	
1847. Oct. 7	11 20 4 11 46 41	257 59 43.6	+1.767 p			} Argelander's Zones, 126, Nr. 63
				19 43 46.9	-0.512 p	
8	7 29 37 7 40 48	254 38 39.7	+1.158 p			} A. Z. 123, Nr. 78
				25 21 13.2	-0.022 p	
	8 14 36	254 31 27.6	+1.336 p	25 31 44.2	-0.109 p	A. Z. 123, Nr. 81
11	8 9 8			a + 7 26.3	-0.500 p	
	8 35 11	a - 13 52.5	+0.774 p			
	9 51 31	248 9 50.4	+0.782 p			} Lalande, 30327
	10 24 19			52 22 24.0	-0.737 p	
13	7 21 40			b + 16 24.4	-0.648 p	
	7 36 10	b + 7 0.0	+0.615 p			
	8 22 14	246 5 26.6	+0.663 p			} Rümker, 5434
	8 23 1			70 22 41.1	-0.701 p	
15	7 6 53	244 36 27.9	+0.579 p			} Rümker, 5418
	7 21 6			86 0 17.9	-0.759 p	
17	7 9 50	243 24 48.6	+0.583 p	97 56 12.8	-0.804 p	ν Ophiuchi

The apparent places of the stars of comparison are computed from the authorities quoted. The approximate places of  $a$  and  $b$  are

	Mag.	R. A.	N. P. D.
		<sup>h</sup> <sup>m</sup> <sup>s</sup>	<sup>°</sup> <sup>'</sup> <sup>"</sup>
$a$	$7\frac{1}{2}$	16 33 51	51 20 49
$b$	8	16 24 1	69 43 49

"The comparison in north polar distance on the 15th was made with the declination circle, the distance being too great to be measured, as the others were, by the wire-micrometer."

## VIENNA. (MM. Littrow &amp; Schaub.)

	Vienna M. T.	R. A.	Parallax.	Decl.	Parallax.
	<sup>h</sup> <sup>m</sup> <sup>s</sup>	<sup>h</sup> <sup>m</sup> <sup>s</sup>	<sup>s</sup>	<sup>°</sup> <sup>'</sup> <sup>"</sup>	<sup>°</sup> <sup>'</sup> <sup>"</sup>
Oct. 12	7 43 8.5	16 28 33.45	+0.0478 p	+29 32 54.1	+0.5720 p
14	8 47 23.4	21 11.84	0.0453	+11 23 28.1	0.7293
16	7 7 53.5	16 16 1.88	+0.0517	-2 9 4.2	+0.7547

## CAMBRIDGE, U. S. (Professor W. C. Bond.)

	Cambridge M. T.	R. A.	Decl.	No. Obs.	Star of Comparison.
	<sup>h</sup> <sup>m</sup> <sup>s</sup>	<sup>h</sup> <sup>m</sup> <sup>s</sup>	<sup>°</sup> <sup>'</sup> <sup>"</sup>		
1847. Oct. 7	7 56 31	17 10 56.2	+70 1 18	2	ζ Draconis
9	6 48 11	16 44 14.4	55 31 51	1	Arg. Z. 13, Nr. 48
11	8 9 11	32 0.2	36 38 7	4	Lalande, 30500
14	7 42 54	20 34.7	9 51 17	3	Bessel, xvi. 466
15	7 27 27	17 59	+2 36 13	2	— 367?
18	6 34 44	16 11 10.1	-13 18 49	4	— 173

The apparent places of the stars have been derived directly from the *Hist. Cél.* and from Bessel's Zones. The *nomenclature* here given is from the recent reductions of those works. "From the 7th to the 14th inclusive, the observations were made with the large equatoreal (*see note*, p. 9), using the declination circle for comparing with the star. On the 15th, the 5-foot equatoreal was employed, using Troughton's micrometer with red light. On the 18th, the annular micrometer was used with the 5-foot equatoreal. The comet visible to the naked eye all the time."

Elements.

By M. d'Arrest.

T ... 1847, Nov. 14.44201, Berlin M. T.				
	<sup>°</sup>	<sup>'</sup>	<sup>"</sup>	
$\pi$ .....	274	14	1.1	} Mean Equinox, Jan. 0, 1847.
$\delta$ .....	190	50	12.7	
$i$ .....	71	53	6.4	
Log $q$ .....	9.5174122	Motion Retrograde.		

By Mr. G. P. Bond.

Per. Pass. Nov. 14.6935, Cambridge, U.S. M.T.				
	<sup>°</sup>	<sup>'</sup>	<sup>"</sup>	
Long. Per. ....	276	24		
Node.....	191	1		
Inclination .....	72	28		
Perihelion Distance...	0.3468	Motion Retrograde.		

The comet may possibly be seen again at the end of the year ; to facilitate the search, M. d'Arrest has computed the following

Ephemeris.

		R. A.	Decl.	Log $\Delta$ .
		<sup>°</sup>	<sup>'</sup>	
1847.	Dec. 10	227 33	-9 45	0.1519
	15	228 51	5 37	0.1541
	20	230 8	-1 31	0.1547

MAUVAIS' THIRD COMET.

Observations. By Mr. W. W. Boreham, at Haverhill.

		Greenwich M.T.	R. A.	Decl.	No. Obs.
		<sup>h</sup> <sup>m</sup> <sup>s</sup>	<sup>h</sup> <sup>m</sup> <sup>s</sup>	<sup>°</sup> <sup>'</sup> <sup>"</sup>	
1847.	July 30	10 16 31.7	13 8 23.57	+72 16 33.3	3
	Aug. 6	10 31 56.1	12 58 19.83	66 25 43.5	4
	7	9 40 5.4	12 57 42.53	65 38 41.8	3
	14	9 36 6.9	12 54 31.94	+60 24 16.9	2